



Patent
Attorney's Docket No. 032287-001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of) BOX AF
Johann PFEIFFER)
Application No.: 08/981,519) Group Art Unit: 2664
Filed: March 17, 1998) Examiner: Steven Nguyen
For: METHOD AND BI-DIRECTIONAL)
DATA TRANSMISSION OVER A)
TWO-WIRE LINE)

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AFTER FINAL REQUEST FOR RECONSIDERATION

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the final Official Action mailed January 2, 2002, reconsideration and allowance of the above-identified application are respectfully requested. Claims 2-11 remain pending.

In the first paragraph of the Office Action the amendment filed on October 18, 2001 is objected to under 35 U.S.C. § 132 as allegedly introducing new matter into the disclosure. This objection is respectfully traversed.

M.P.E.P. § 2163.07 describes amendments to an application which are supported in the original description, and hence, are not new matter. This section of the M.P.E.P., citing *In re Anderson*, f.2d 1237, U.S.P.Q. 331 (CCPA 1973), states that "a rewording of a passage where the same meaning remains intact is permissible." In the amendment filed on October 18, 2001, a new figure 3 was added to the present application. This new figure illustrates a central data station (C) and a peripheral data station (R) each comprising a

transmission section 50 including a DMT modulator 8, a TDM manager 30, a transformer 13, and a reception section 51 including a DMT demodulator 19. Connecting the central data station and the peripheral data station is a line 100. Figure 1 of the present application, which was part of the application as filed, illustrates a single data station which includes all of the elements illustrated in both of the data stations of figure 3. Further, the data station in figure 1 includes a line 100 for connection to another data station. The present application, at page 7, lines 4-13, discusses that "the transmission and reception sections 50, 41 both of a central data station C (CENTRAL) and of a peripheral data station R (REMOTE) are illustrated in a single block diagram, which should be understood such that the central data station C is connected to the data station R via the transformer 13, the two-wire line 100 and a further transformer 13." Since everything illustrated in figure 3 filed with the Amendment of October 18, 2001 is fully supported by the present application, the addition of figure 3 can be considered as mere rephrasing of that which was already present in the application as filed, and hence, the addition of figure 3 does not constitute new matter.

It is noted that the Office Action merely asserts that the Amendment filed October 18, 2001 contains new matter without providing any reasoning to support this assertion. Accordingly, if this objection is maintained, it is respectfully requested that the next communication from the Patent Office provide detailed reasoning as to why the Amendment filed on October 18, 2001 constitutes new matter.

For at least those reasons stated above, it is respectfully requested that the objection to the Amendment filed on October 18, 2001 be withdrawn.

In the third paragraph of the Office Action claims 2, 8, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,514,840 (Bader et al., hereinafter referred to as "Bader") in view of U.S. Patent No. 5,619,505 (Grube et al., hereinafter referred to as "Grube"). This ground of rejection is respectfully traversed.

The combination of Bader and Grube does not render Applicant's claim 8 unpatentable because the combination does not disclose or suggest all of the elements of Applicant's claim 8. For example, the combination of Bader and Grube does not disclose or suggest the step of "separating digital data to be transmitted and the digital data to be received by time division multiplex operation, wherein an associated multiplex time frame is subdivided into a predeterminable number of time slots N, a number of time slots K being assigned exclusively to one transmission direction, and the remaining number of time slots N-K being assigned exclusively to the other transmission direction" as recited in Applicant's claim 8. Moreover, it is respectfully submitted that one of ordinary skill in the art would not have been motivated to combine Bader and Grube in the manner suggested by the Office Action.

Bader discloses a data transmission system for full duplex communication. In the system of Bader coded data is transmitted during one half period of the main clock signal from the main station to the local station and during the other half period the coded data signal is transmitted from the local station to the main station. (see Bader at col. 1, lines 6-14). However, the system of Bader does not include a time division unit, and hence, the system of Bader does not subdivide a time frame by time slots. Accordingly, Bader does not disclose or suggest the step of "separating digital data to be transmitted and the digital

data to be received by time division multiplex operation, wherein an associated multiplex time frame is subdivided into a predeterminable number of time slots N, a number of time slots K being assigned exclusively to one transmission direction, and the remaining number of time slots N-K being assigned exclusively to the other transmission direction" as recited in Applicant's claim 8.

In the third paragraph of the July 18, 2001 Office Action it is acknowledged that Grube does not disclose or suggest a time frame being subdivided into time slots, a number of the time slots being assigned to one transmission direction and the remaining number of time slots being assigned to the other transmission direction. Accordingly, Grube does not disclose or suggest the step of "separating digital data to be transmitted and the digital data to be received by time division multiplex operation, wherein an associated multiplex time frame is subdivided into a predeterminable number of time slots N, a number of time slots K being assigned exclusively to one transmission direction, and the remaining number of time slots N-K being assigned exclusively to the other transmission direction" as recited in Applicant's claim 8.

Since Bader and Grube both do not disclose or suggest the separating step of Applicant's claim 8, the combination of Bader and Grube cannot disclose or suggest all of the elements of Applicant's claim 8.

Moreover, it is respectfully submitted that one of ordinary skill in the art would not have been motivated to combine Bader and Grube in the manner suggested by the Office Action. In rejecting Applicant's claim 8 the Office Action relies upon the incorporation of Grube's disclosure discrete multitone (DMT) modulation into the disclosure of Bader. To

support this combination the Office Action asserts that one of ordinary skill in the art would have been motivated to incorporate the DMT modulation of Grube into the system of Bader "to reduce the leak signal from a transmission side to a receiving side." However, in the system of Bader when the coder is active the decoder is blocked. (Bader at col. 3, lines 24-28). Since the system of Bader blocks the decoder when the coder is active there is no leak signal from a transmission side to a receiving side. Accordingly, even if the DMT modulation of Grube reduced such a leak, there would no use for incorporating the DMT modulation to reduce the leak since there is no leak present in the system of Bader. Furthermore, Grube does not disclose or suggest that the DMT modulation reduces "the leak signal from a transmission side to a receiving side" as asserted by the Office Action.

Additionally, there is no disclosure or suggestion in Bader which would have indicated to one of ordinary skill in the art at the time of the invention that it would be desirable to implement the DMT modulation of Grube in the system of Bader. Conversely, there is no disclosure or suggestion in Grube that it would have been desirable to incorporate DMT modulation into a system such as the one disclosed by Bader.

As discussed in previous responses, the express disclosure of Grube actually teaches away from the combination suggested by the Office Action. For example, the system of Grube employs a conversion hybrid which provides echo cancellation and may also include a transformer along with echo cancellation circuitry. (Grube at col. 9, lines 55-61). Accordingly, the system of Grube, by employing echo cancellation circuitry, does not

experience the leakage problem asserted by the Office Action to be motivation for one of ordinary skill in the art to combine Bader and Grube.

Since the motivation provided by the Office Action would not have in fact motivated one of ordinary skill in the art to combine Bader and Grube in the manner suggested by the Office Action, and since Bader and Grube both fail to disclose or suggest that it would have been desirable to combine Bader and Grube in the manner suggested by the Office Action, it is respectfully submitted that one of ordinary skill in the art would not have been motivated to combine Bader and Grube in the manner suggested in the Office Action.

The Office Action also asserts that "[e]ven without, Grude's teaching, one of ordinary skill in the art would know how to apply a DMT modulator and demodulator into Bader's transceiver." The purpose of this statement in the Office Action is unclear.

However, if this is intended to be "Official Notice", Applicant respectfully traverses this assertion and respectfully requests that the next Office Action provide a prior art reference which discloses applying "a DMT modulator and demodulator into Bader's transceiver" so that Applicant has a full and fair opportunity to respond to such an allegation.

Alternatively, if the Office Action is asserting that the difference between the disclosure of Bader and Applicant's claimed invention is within the capabilities of one of ordinary skill in the art, it should be noted that this is not the proper standard for assessing patentability under 35 U.S.C. § 103(a). Specifically, M.P.E.P. § 2143.01, citing *Ex parte Levengood*, 29 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993), states that

[a] statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references.

Since the combination of Bader and Grube does not disclose or suggest all of the elements of Applicant's claim 8, and since there is no motivation to combine Bader and Grube in the manner suggested in the Office Action, the combination of Bader and Grube does not render Applicant's claim 8 unpatentable.

Claims 2 and 9 depend from claim 8, and are, therefore, patentably distinguishable over the combination of Bader and Grube for at least those reasons stated above with regard to Applicant's claim 8.

Claim 11 recites a system with similar elements to those discussed above with regard to Applicant's claim 8. Accordingly, the combination of Bader and Grube does not render Applicant's claim 11 unpatentable for similar reasons to those discussed above with regard to Applicant's claim 8.

For at least those reasons stated above, it is respectfully requested that the rejection of claims 2, 8, 9 and 11 as allegedly being unpatentable over the combination of Bader and Grube be withdrawn.

In the fourth paragraph of the Office Action claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grube and Bader, and further in view of U.S. Patent No. 4,144,522 (Kageyama). In the fifth paragraph of the Office Action claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grube and Bader,

and further in view of U.S. Patent No. U.S. Patent No. 3,798,608 (Huebner). In the sixth paragraph of the Office Action claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grube and Bader, and further in view of U.S. Patent No. 5,625,651 (Cioffi). In the seventh paragraph of the Office Action claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grube and Bader, and further in view of U.S. Patent No. 5,151,896 (Bowman). These rejections are respectfully traversed.

Claims 3-7 and 10 variously depend from claim 8. As discussed above, the combination of Bader and Grube does not render Applicant's claim 8 unpatentable. However, Huebner, Cioffi, or Bowman do not remedy the above-identified deficiencies of the combination of Bader and Grube with respect to Applicant's claim 8. Hence, Bader and Grube in combination with Huebner, Cioffi or Bowman does not render Applicant's claims 3-7 and 10 unpatentable.

Accordingly, withdrawal of the rejection of claims 3-7 and 10 as allegedly being unpatentable is respectfully requested.

All outstanding objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance. Notice to this effect is

earnestly solicited. If there are any questions regarding this response, or the application in general, the Examiner is encouraged to contact the undersigned at 703-838-6578.

Respectfully submitted,

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